

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) Isothermal reactor for carrying out heterogeneous exothermic or endothermic reactions, comprising:
 - a preferably vertical, outer shell (2) of substantially cylindrical shape;
 - at least one catalytic bed (3) provided in the shell (2) and comprising opposed perforated side walls (4, 5) for the inlet of a flow comprising reactants and the outlet of a flow comprising reacted substances, respectively; and
 - at least one tube (13) passing through said at least one catalytic bed (3) for the passage of a cooling or heating fluid;

~~characterised~~characterized in that said at least one tube (13) extends within said at least one catalytic bed (3) along a plane substantially perpendicular with respect to the side walls (4, 5).
2. (Currently Amended) Reactor according to Claim 1, ~~characterised~~characterized in that said at least one tube (13) extends within said at least one catalytic bed (3) along a substantially horizontal plane.

3. (Currently Amended) Reactor according to Claim 1, ~~characterised~~characterized in that said at least one tube (13) extends as a spiral-shaped coil, ~~preferably in the form of a spiral~~.

4. (Currently Amended) Reactor according to Claim 3, ~~characterised~~characterized in that said spiral-shaped coil has a winding pitch that varies in accordance with the variation of the radius of the spiral.

5. (Currently Amended) Reactor according to Claim 4, ~~characterised~~characterized in that said winding pitch decreases as the radius of the spiral increases.

6. (Currently Amended) Reactor according to Claim 1, ~~characterised~~characterized in that it comprises a plurality of tubes (13) arranged in said at least one catalytic bed (3) at a variable distance between adjacent tubes (13).

7. (Currently Amended) Reactor according to Claim 1, ~~characterised~~characterized in that it comprises a plurality of tubes (13) in said at least one catalytic bed (3) overlaid with respect to each other and connected at respective free ends.

8. (Currently Amended) Reactor according to Claim 6, ~~characterised~~characterized in that said tubes (13) are connected to each other in groups of at least two tubes, each group being in fluid communication with a duct (14, 16) for feeding and drawing off said cooling or heating fluid, respectively.

9. (Currently Amended) Reactor according to Claim 1, ~~characterised~~characterized in that it comprises a plurality of tubes (13) arranged side-by-side are provided in

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correspondence of at least one predetermined plane substantially perpendicular with respect to said side walls (4, 5) within said at least one catalytic bed (3).

10. (Currently Amended) Reactor according to Claim 9, ~~characterised~~characterized in that said at least two tubes (13) arranged side-by-side extend as a coil having the shape of an arc of a circle of increasing length from a central zone of said bed (3) to a peripheral zone thereof.

11. (Currently Amended) Reactor according to Claim 9, ~~characterised~~characterized in that said at least two tubes (13) arranged side-by-side comprise a first and a second tube portion (13a, 13b) having the shape of an arc of a circle of different length arranged near a central zone of said bed (3) and a peripheral zone thereof, respectively, and a plurality of third tube portions (13c) connecting said second with said first tube portion (13b, 13a).